



(12) **Patent Application Publication**
Mehta et al.

(43) **Pub. Date:** **Jul. 16, 2020**

(2006.01)

(2006.01)

(52) U.S. Cl.

CPC ***H02J 7/025*** (2013.01); ***H02J 50/10***
(2016.02); ***H01F 38/14*** (2013.01); ***H01M***
10/425 (2013.01); ***H02J 50/50*** (2016.02)

(57) **ABSTRACT**

A battery case has first and second coils on opposing sides of a battery and has switching circuitry that is coupled between the first and second coils. The battery case has a battery that provides supplemental battery power wirelessly to a wireless power receiving device via the second coil when the switching circuitry is in an open state. The case can also receive power wirelessly with the first coil from a wireless charging mat when the switching circuitry is in the open state. In a closed state, the switching circuitry shorts the first and second coils together so that current flowing through the first coil flows through the second coil in series and so that wireless power from the wireless charging mat that is received with the first coil is transmitted wirelessly to the wireless power receiving device using the second coil.

(60) Provisional application No. 62/791,587, filed on Jan. 11, 2019.

(51) **Int. Cl.**

H02J 50/10 (2006.01)

H02J 50/50 (2006.01)

